

IN THE CLAIMS:

1. (Currently Amended) A liquid delivery system for horticultural application, comprising:

a controller device electrically connectable to a zone watering control system where the controller is configured to generate and transmit ~~configured~~ fluid control signals to selectively control the flow of pressurized fluid to a plurality of fluid delivery zones; and

said controller further configured to be electrically connectable to at least one additive injector for introducing said liquid additive into said ~~the flow of~~ pressurized fluid, flow, said controller being further configured to generate ~~one or more injection control signals~~ a number of injection pulses to selectively control ~~an injection rate of a~~ injection of a corresponding number of slugs of said liquid additive into said flow of pressurized fluid, ~~flow~~, wherein said number of said injection pulses ~~control signals are~~ is generated in accordance with at least a first criteria associated with said fluid control signals.

2. (Original) The system of Claim 1, wherein said at least a first criteria associated with said fluid control signals include at least one of: stored data from a memory structure, instructions entered through a user interface and external data received from at least a first external device.

3. (Original) The system of Claim 2, wherein said stored data includes at least one of:
zone information for each said fluid delivery zone in said liquid delivery system;
geographic information relating to at least a first environmental condition associated with the region in which said liquid delivery system is located;
horticultural information relating to plant types associated with each said fluid delivery zone in said liquid delivery system.

4. (Original) The system of Claim 3, wherein said zone information includes a flow rate

for said each said fluid delivery zone.

5. (Original) The system of Claim 3, wherein said geographic information includes information relating to a least one of: soil types associated with said region, precipitation information associated with said region.

6. (Original) The system of Claim 2, wherein said external data received from at least a first external device includes at least one of:

weather related information received from a weather sensor in data communications with said controller; and

soil related information received from a soil sensor in data communications with said controller.

7. (Currently Amended) The system of Claim 1, wherein said ~~injector control signals~~ number of injection pulses may be dynamically modified in response to a change detected in said at least a first criteria.

8. (Currently Amended) The system of Claim 1, wherein said ~~injector control signals~~ number of injection pulses allow for selectively controlling a volume of ~~comprise electrical controls for selectively control the rate said additive injector introduces said liquid additive injected~~ into said flow of pressurized fluid, ~~flow~~.

9. (Cancelled)

10. (Currently Amended) The system of Claim 1, wherein said additive injector comprises a piston for displacing a slug of liquid additive, having a predetermined volume, in response to each said injection pulse, ~~at least one of: a motor driven pump, and a hydraulic pump~~.

11. (Currently Amended) The system of Claim 1, wherein said controller is configured to generate a plurality of said injection pulses ~~control signals~~ to selectively control an injection rate of a

plurality of liquid additives into said flow of pressurized fluid.~~flow.~~

12. (Currently Amended) The system of Claim 1, wherein said controller further comprises;

a first controller for generating said fluid control signals; and

a second controller adapted to operate in conjunction with said first controller to generate said ~~injection control signals~~ injection pulses, wherein said second controller is in data communication with said first controller.

13-26. Cancelled.

27. (New) The system of Claim 1, wherein said additive injector for introducing said liquid additive into said pressurized fluid flow comprises:

a solenoid that is operative in response to each said injection pulse, wherein said solenoid displaces a piston.

28. (New) A liquid delivery system for horticultural application, comprising:

a controller electrically connectable to a zone watering control system where the controller is configured to:

generate and transmit fluid zone control signals to selectively control a pressurized fluid flow to a plurality of fluid delivery zones; and

generate injection pulses to selectively control injection of a predetermined number of slugs of liquid additive into said pressurized fluid flow, wherein the predetermined number of slugs is generated in accordance with at least a first criteria associated with said fluid zone control signals;

an injector for injecting liquid additive into said pressurized fluid flow, wherein said injector includes a piston for displacing a slug of liquid additive in response to each said injection pulse.

29. (New) The system of Claim 28, wherein said injector further comprises:

a solenoid operatively connected to said piston, wherein each said injection pulse actuates said solenoid

30. (New) The system of Claim 28, wherein said at least a first criteria includes at least one of: stored data from a memory structure, instructions entered through a user interface and external data received from at least a first external device.

31. (Original) The system of Claim 30, wherein said stored data includes at least one of:
zone information for each said fluid delivery zone in said liquid delivery system;
geographic information relating to at least a first environmental condition associated with the region in which said liquid delivery system is located;

horticultural information relating to plant types associated with each said fluid delivery zone in said liquid delivery system.

32. (Original) The system of Claim 31, wherein said zone information includes a flow rate for said each said fluid delivery zone.

33. (Original) The system of Claim 31, wherein said geographic information includes information relating to a least one of: soil types associated with said region, precipitation information associated with said region.

34. (Original) The system of Claim 30, wherein said external data received from at least a first external device includes at least one of:

weather related information received from a weather sensor in data communications with said controller; and

soil related information received from a soil sensor in data communications with said controller.